



Australian Government

AURTTM005 Balance rotating and reciprocating engine components

Release: 1

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Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to balance rotating and reciprocating engine components. It involves preparing for the task, determining and performing the balancing requirements for the engine component in an engine reconditioning process, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The engine components include those in vehicles from all sectors of the industry.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Competency Field

Mechanical Miscellaneous

Unit Sector

Technical - Manufacture

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to balance rotating and reciprocating engine component	1.1 Job requirements are determined from workplace instructions 1.2 Methods of balancing component are sourced and interpreted from manufacturer literature and workplace procedures 1.3 Tools and measuring equipment are selected and checked for

Elements	Performance Criteria
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	<p>serviceability</p> <p>1.4 Hazards associated with the work are identified and risks are managed</p> <p>1.5 Engine component is <i>prepared</i> for balancing operations and balancing machine is prepared to accept component according to <i>safety requirements</i></p>
2. Balance rotating and reciprocating engine component	<p>2.1 Component is mounted and engaged with machine according to workplace procedures and safety requirements, and following machinery safe operating procedures</p> <p>2.2 Rotating and reciprocating engine components are balanced in line with workplace requirements and according to workplace procedures, safety requirements, and machinery safe operating procedures, and without causing damage to components or system</p>
3. Complete balancing processes	<p>3.1 Final inspection is made to ensure work is to workplace requirements</p> <p>3.2 Component is cleaned and presented ready for use or stored according to workplace procedures</p> <p>3.3 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected</p> <p>3.4 Workplace documentation is processed according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	<ul style="list-style-type: none"> locate appropriate sources of information efficiently.
Reading skills to:	<ul style="list-style-type: none"> identify and interpret engine component specifications from workshop literature interpret safe operating procedures for engine component balancing machinery from operating manuals.
Writing skills to:	<ul style="list-style-type: none"> legibly and accurately fill out workplace documentation when recording measurements.

Skills	Description
Oral communication skills to:	<ul style="list-style-type: none"> clarify instructions.
Numeracy skills to:	<ul style="list-style-type: none"> interpret numerical information in manufacturer specifications, workshop manuals, and machinery dials and gauges use basic mathematical operations, including addition, subtraction, division and multiplication to: <ul style="list-style-type: none"> convert metric dimensions to imperial, and imperial dimensions to metric weigh engine components to determine weight to be removed or added.
Digital literacy skills to:	<ul style="list-style-type: none"> navigate and operate computerised balancing machinery.
Problem solving skills to:	<ul style="list-style-type: none"> determine the most appropriate balancing method for the situation.
Technology skills to:	<ul style="list-style-type: none"> use metric and imperial precision measuring equipment.

Range of Conditions

This section specifies work environments and conditions that may affect performance.

Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Preparing</i> must include:	<ul style="list-style-type: none"> procedures for chemically cleaning components without damage checking all components to ensure no further machining is required.
<i>Safety requirements</i> must include:	<ul style="list-style-type: none"> work health and safety (WHS) and occupational health and safety (OHS) requirements, including operational risk assessment and treatments associated with: <ul style="list-style-type: none"> electrical safety of balancing equipment and machinery equipment and machinery movement and operation.

Unit Mapping Information

Equivalent to AURTTM3005 Balance rotating and reciprocating engine components

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>